

- I. GENERAL
- THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 97 (GEORGIA AVENUE) AT HATHAWAY DRIVE IN MONTGOMERY COUNTY. THIS SIGNAL SHALL BE RECONSTRUCTED TO MAST ARM FROM A SPAN WIRE DESIGN. COUNTDOWN PEDESTRIAN SIGNALS AND ACCESSIBLE PEDESTRIAN SIGNALS (APS) SHALL BE INSTALLED FOR THE SOUTH CROSSING OF MD 97 (GEORGIA AVENUE) AND THE EAST AND WEST CROSSINGS OF HATHAWAY DRIVE. OVERHEAD VIDEO DETECTION CAMERA'S SHALL BE INSTALLED FOR THE SIDE STREET PRESENCE DETECTION.
- II. INTERSECTION OPERATION
1. THE INTERSECTION IS TO OPERATE IN A NEMA 4-PHASE, SEMI-ACTUATED MODE.
- NOTES
1. FOR FINAL PAVEMENT MARKINGS, REFER TO THE PAVEMENT MARKING PLANS, AS APPLICABLE; OTHER THAN THOSE DETAILED ON THE PLAN. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH ADMINISTRATION STANDARDS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE.
3. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN THE APPROPRIATE 800 SERIES STANDARD PLATES. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
4. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
5. THE CONTRACTOR SHALL MAINTAIN THE CONTINUOUS OPERATION OF ALL INTERCONNECT, VEHICULAR, PEDESTRIAN DETECTORS, AND LIGHTING DEVICES. IF ANY DEVICE IS DAMAGED BY THE CONTRACTOR, IT SHALL BE REPAIRED WITHIN 72 HOURS BY THE CONTRACTOR AT NO COST TO THE ADMINISTRATION AFTER NOTIFICATION BY THE ENGINEER.
6. APS WILL FUNCTION AS FOLLOWS:
- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE MESSAGE WILL BE "WAIT TO CROSS GEORGIA AT HATHAWAY."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
- TO CROSS HATHAWAY DRIVE
- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE MESSAGE WILL BE "WAIT TO CROSS HATHAWAY AT GEORGIA."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
7. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
8. THE 10' SEPERATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
9. PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
10. LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 AND FIG. 4E.2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE". IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
11. THE CONTRACTORS SHALL CONTACT KEITH LORD (2)TWO WEEKS IN AD VANCE TO ARRANGE FOR PICK-UP OF MONTGOMERY COUNTY SUPPLIED SPLICE BOXES.

DISTRICT (THREE)

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ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
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MR. AUGIE REBISH
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CONTACTS

OFFICE OF TRAFFIC AND SAFETY

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MS. DARLENE EIDE
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
410-787-7668

MONTGOMERY COUNTY

MR. KEITH LORD
301-279-1971

MR. KAMAL HAMUD
TRAFFIC ENGINEER - MCTMC
240-777-8761

| EQUIPMENT LIST | | EQUIPMENT LIST | |
|--|---|----------------|----------|
| A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION | | | |
| CAT CODE | DESCRIPTION | UNITS | QUANTITY |
| 973023 | VIDEO DETECTION INTERFACE EQUIPMENT | EA | 1 |
| | FLAT SHEET ALUMINUM SIGNS CONSISTING OF: | SF | 165 |
| | R10-3(1) (9"x15") POLE MOUNT SIGN TO READ "PUSH BUTTON TO CROSS GEORGIA" | EA | 2 |
| | R10-3(1) (9"x15") POLE MOUNT SIGN TO READ "PUSH BUTTON TO CROSS HATHAWAY" | EA | 4 |
| | R3-5 (L) (30"x36") MAST ARM MOUNT | EA | 2 |
| | R10-11b (30"x30") MAST ARM MOUNT | EA | 1 |
| | D-3(1) (VAR.X16") MAST ARM MOUNT | EA | 8 |
| | SHIELD ASSEMBLY (36"x51") | EA | 1 |
| | SHIELD ASSEMBLY (48"x75") | EA | 2 |

| B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR | | EQUIPMENT LIST | |
|---|-------|----------------|--|
| CAT CODE | UNITS | QUANTITY | DESCRIPTION |
| 203030 | CY | 5 | TEST PIT EXCAVATION |
| 585621 | LF | 410 | 12 INCH WHITE PERMANENT PREFORMED THERMO. PAVEMENT MARKING |
| 585625 | LF | 160 | 24 INCH WHITE PERMANENT PREFORMED THERMO. PAVEMENT MARKING |
| 800000 | EA | 6 | 16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION |
| 800000 | EA | 1 | 2-WIRE CENTRAL CONTROL UNIT |
| 800000 | LS | 1 | REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT |
| 800000 | EA | 2 | INSTALL MONTGOMERY COUNTY SUPPLIED SPLICE BOX |
| 800000 | EA | 6 | AUDIBLE TACTILE PEDESTRIAN PUSHBUTTON STATION |
| 800000 | EA | 1 | SPECIAL "T" STEEL POLE WITH A SINGLE 50 FOOT MAST ARM |
| 800000 | LF | 100 | CABLE 1-CONDUCTOR, 250 KCMIL |
| 801004 | CY | 20 | CONCRETE FOR SIGNAL FOUNDATIONS |
| 801106 | LF | 55 | WOOD SIGN SUPPORT 4 INCH X 6 INCH |
| 802501 | LF | 475 | NO. 6 AWG STRANDED BARE COPPER GROUND WIRE |
| 805125 | LF | 20 | 2 INCH SCHEDULE 80 PVC CONDUIT - TRENCHED |
| 805135 | LF | 100 | 3 INCH SCHEDULE 80 PVC CONDUIT - TRENCHED |
| 805140 | LF | 400 | 4 INCH SCHEDULE 80 PVC CONDUIT - TRENCHED |
| 805155 | LF | 275 | 4 INCH SCHEDULE 80 PVC CONDUIT - SLOTTED |
| 807202 | EA | 1 | METERED SERVICE PEDESTAL |
| 810010 | LF | 75 | CABLE 1-CONDUCTOR, NO. 4 AWG THHN/THWN |
| 811001 | EA | 6 | FURNISH AND INSTALL ELECTRICAL HANDHOLE |
| 813010 | EA | 2 | BAND SIGN TO SUPPORT |
| 813014 | SF | 36 | INSTALL GROUND MOUNTED SIGN |
| 813015 | SF | 93 | INSTALL OVERHEAD SIGN |
| 816001 | EA | 2 | VIDEO DETECTION CAMERA |
| 816005 | EA | 1 | CONTROL CABLE, 250 FOOT VIDEO DETECTION CAMERA TO CONTROLLER |
| 816010 | EA | 1 | CONTROL CABLE, 500 FOOT VIDEO DETECTION CAMERA TO CONTROLLER |
| 818004 | EA | 5 | 10 FOOT BREAKAWAY BASE PEDESTAL POLE |
| 818030 | EA | 1 | STEEL POLE WITH A SINGLE 38 FOOT MAST ARM |
| 818050 | EA | 1 | STEEL POLE WITH TWIN 50 FOOT AND 60 FOOT MAST ARMS |
| 822002 | LF | 75 | 12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND) |
| 822003 | LF | 300 | 50-PAIR COMMUNICATION CABLE, SELF-SUPPORTING (OVERHEAD) |
| 837001 | EA | 10 | GROUND ROD - 3/4 INCH DIA. X 10 FOOT LENGTH |
| 860284 | EA | 30 | 12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION |
| 861105 | LF | 875 | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG) |
| 861107 | LF | 1000 | ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG) |
| 861108 | LF | 1450 | ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG) |
| 871202 | EA | 1 | INSTALL CONTROLLER AND CABINET - BASE MOUNT |

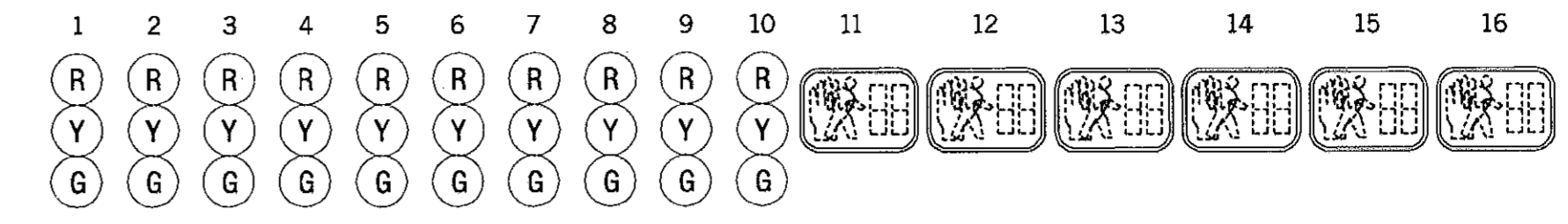
NOTE:

THE CONTRACTOR SHALL DELIVER AUDIBLE TACTILE PEDESTRIAN PUSHBUTTON STATION AND BASE UNIT TO KEITH LORD AT THE MONTGOMERY COUNTY SIGNAL SHOP PRIOR TO LOCATION INSTALLATION FOR PROGRAMMING. SHA FORCES SHALL INSTALL AUDIBLE TACTILE PEDESTRIAN PUSH BUTTON BASE UNIT IN THE CABINET. THE CONTRACTOR SHALL CONTACT KEITH LORD FOR LOCATING ALL EXISTING SIGNAL EQUIPMENT 48 HOURS IN ADVANCE.

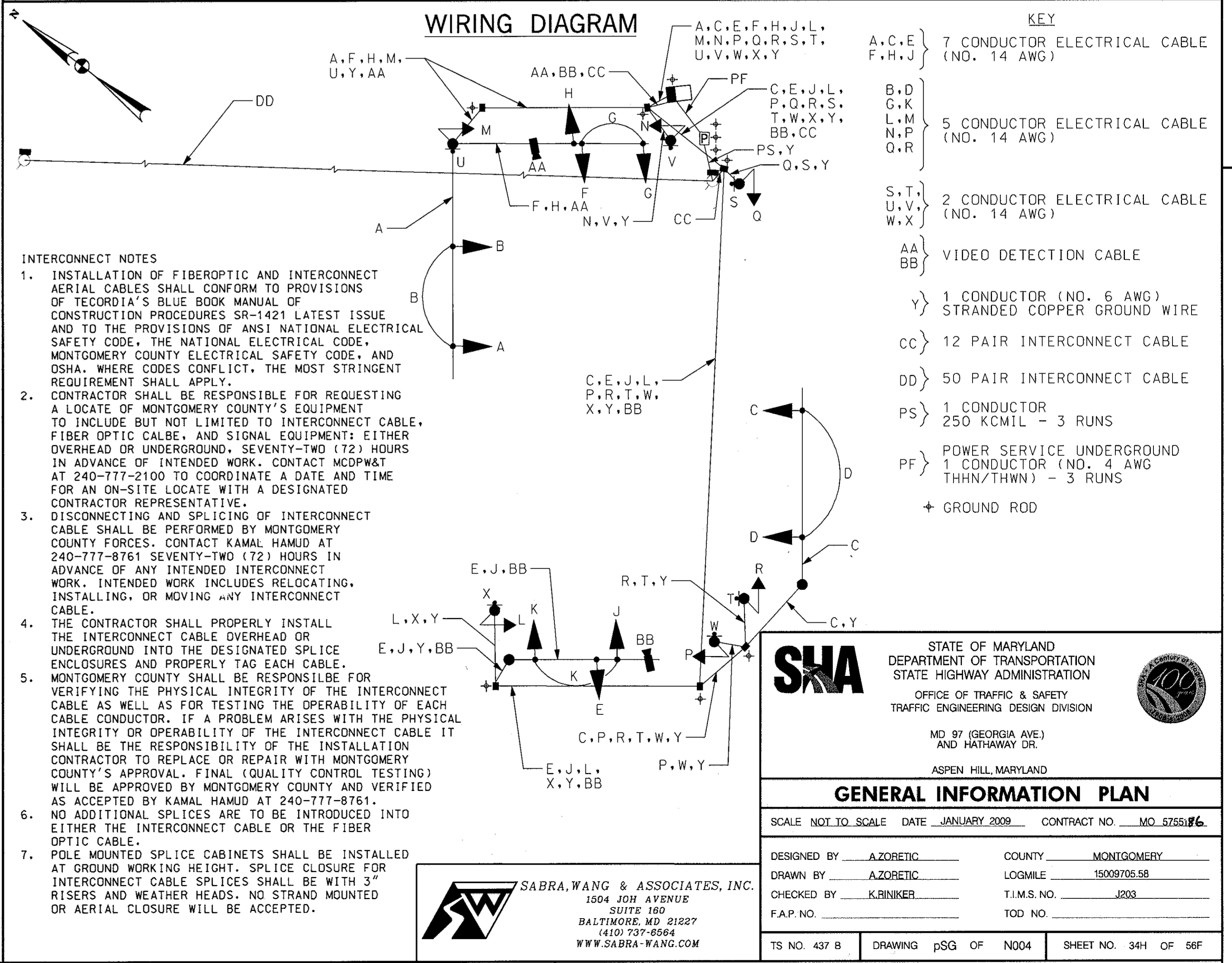
C. SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

| CAT CODE | DESCRIPTION | UNITS | QUANTITY |
|----------|-------------|-------|----------|
| 800000 | CONTROLLER | EA | 1 |

PHASE CHART



| PHASE 2 AND 6 | G | G | G | G | R | R | R | R | R | R | WK | WK | WK | WK | DW | DW |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| PED CLEARANCE | G | G | G | G | R | R | R | R | R | R | FLDW | FLDW | FLDW | FLDW | DW | DW |
| 2 AND 6 CHANGE | Y | Y | Y | Y | R | R | R | R | R | R | DW | DW | DW | DW | DW | DW |
| PHASE 4 AND 8 | R | R | R | R | G | G | G | G | G | G | DW | DW | DW | DW | DW | DW |
| 4 AND 8 CHANGE | R | R | R | R | Y | Y | Y | Y | Y | Y | DW | DW | DW | DW | DW | DW |
| PHASE 4 ALT & 8 | R | R | R | R | G | G | G | G | G | G | DW | DW | DW | DW | WK | WK |
| PED CLEARANCE | R | R | R | R | G | G | G | G | G | G | DW | DW | DW | DW | FLDW | FLDW |
| 4 ALT & 8 CHANGE | R | R | R | R | Y | Y | Y | Y | Y | Y | DW | DW | DW | DW | DW | DW |
| FLASHING OPERATION | FLY | FLY | FLY | FLY | FLR | FLR | FLR | FLR | FLR | FLR | DARK | DARK | DARK | DARK | DARK | DARK |



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 97 (GEORGIA AVE.)
AND HATHAWAY DR.
ASPEN HILL, MARYLAND

GENERAL INFORMATION PLAN

SCALE NOT TO SCALE DATE JANUARY 2009 CONTRACT NO. MD 575516

DESIGNED BY AZORETIC COUNTY MONTGOMERY
DRAWN BY AZORETIC LOGMILE 15009705.58
CHECKED BY K.BINKER T.I.M.S. NO. J203
F.A.P. NO. TOD NO.

TS NO. 437 B DRAWING pSG OF N004 SHEET NO. 34H OF 56F

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PLOTTED: THURSDAY, JANUARY 15, 2009 AT 02:10 PM
FILE: R:\2006\58 BCS 2005-130 PREL ENG DES SVC WRA #206\TASK 2\DWG\SIGNALS\SIGNAL REBUILD\PGI-N004.MD97.DGN